CALTRANS DIVISION OF RESEARCH AND INNOVATION

DRI GOODS MARKETPLACE

FRESH IDEAS IN TRANSPORTATION - DAILY!

VOLUME II, ISSUE I MAY 2008

INSIDE THIS ISSUE:

Balsi Beam To Be Commercialized

The Balsi Beam is a truck-mounted, expandable beam that will provide work zone protection for highway workers performing shoulder work on the highway. The potential for the Balsi Beam to improve safety among highway work zones would add positive protection against highway occupational injuries and fatalities and helps the Department of Transportation (Caltrans) achieve the goal of zero deaths of highway workers in work zones. Caltrans owns the patent to the Balsi Beam technology.

A Request for Proposal (RFP) is being developed to allow Caltrans to commercialize the Balsi Beam which will allow external agencies to procure it for their use. An RFP is the medium in which vendors can buy the patent and then mass produce the product for agencies across the nation. The Division of Research and Innovation (DRI) has been working extensively with Caltrans Legal Service Center and the Division of Procurement and Contracts to ensure that the RFP places the liability, marketing, commercialization, distribution, and deployment support with the vendor.

The Balsi Beam was on display at the State Capitol during the Caltrans Workers Memorial held on April 8, 2008. At the event, Caltrans Director Will Kempton mentioned the Balsi Beam to remind the public what Caltrans is doing to ensure that employees exposed to work zones are kept safe.

For more information, please visit http://www.dot.ca.gov/research/deployment_support/deployed_projects/index.htm

Caltrans Receives Global Road Federation Recognition for CA4PRS

In October of 2007 the International Road Federation, a unique global platform that brings together public and private entities committed to road development, selected Caltrans' Construction Analysis for Pavement Rehabilitation Strategy (CA4PRS) software program as the winner of the Global Road Achievement Award for Research. On March 20, 2008, the trophy was presented to Director Kempton during a ceremony to recognize all those who contributed to the development and deployment of CA4PRS.

CA4PRS is a software tool developed through the DRI and UC Berkeley researchers that provides both accuracy and efficiency in calculations of pavement construction rate and roadway closure requirement. It has been tested on projects in California and other states, and has consistently demonstrated a savings in time and money in the con--

(Continued on page 3)

Caltrans Grant Supports Mobile Century 100 Experiment

For state transportation agencies such as Caltrans, tapping into the vast network of cell phones on the road could one day remove the need to invest in expensive infrastructure to obtain traffic information in both urban and rural areas.

In an unprecedented field test, transportation researchers demonstrated the feasibility of using Global Positioning System (GPS) enabled cell phones to monitor real-time traffic flow while preserving the privacy of the phones' users.

On Friday, February 8, 2008, researchers from Nokia and the University of California, Berkeley, tested technology that could soon transform the way drivers navigate through congested highways and obtain information about road conditions. During this one-day event, one hundred vehicles were deployed onto a ten mile stretch of highway near San Francisco for seven hours in the experiment dubbed *Mobile Century*, primarily funded by the Caltrans. Each car was equipped with a Nokia N95 mobile phone that ran special software to periodically send anonymous speed-readings from the integrated GPS to an installation of servers. Traffic conditions were computed and displayed on the Internet, allowing viewers to visualize traffic in real-time. An independent tracking feature allowed the command center to track the position of the cars to coordinate the experiment and ensure the safety of the participants.

Using the data to estimate prevailing speeds and travel times, researchers were able to obtain a picture of real-time traffic conditions unlike that available from existing technology. Current traffic monitoring systems primarily rely upon pavement-embedded sensors, roadside radar or cameras, all of which are costly to install and maintain and can only provide coverage on limited stretches of highway.

For state transportation agencies such as Caltrans, tapping into the vast network of cell phones on the road could one day remove the need to invest in expensive infrastructure to obtain traffic information in both urban and rural areas. Greatly expanding the coverage of traffic information services that can be delivered to navigation systems or mobile handsets will also give motorists better information to plan their journeys. Over the next few years, it is expected that GPS will become a standard feature in most Nokia mobile phones.

The project is supported by a $500,000 grant from Caltrans. Additional support comes from the National Science Foundation, Nokia, Tekes, the University of California Transportation Center, and the Volvo Center of Excellence for Future Urban Transport at University of California (UC) Berkeley's Institute of Transportation Studies, which is also home to California Center For Innovative Transportation (CCIT).

Caltrans Division of Research and Innovation

1227 O Street
Veterans Affairs Building, 5th Floor
Sacramento, CA 94273
Sacramento, CA

We're On The Web!
http://www.dot.ca.gov/newtech/

Why DRI?

The California Department of Transportation (Caltrans), as the steward of the State's transportation system, has the responsibility of providing leadership to meet the following challenges now and into the future: Enhance Transportation Services; Improve Safety; Reduce Energy and Environmental Impacts; and Enhance the Economic Vitality of California.

Caltrans' Division of Research and Innovation, in cooperation with its partners, has developed a comprehensive program to research, develop, test and evaluate transportation innovations. These innovations in methods, materials and technologies will enable Caltrans to provide the most effective management of public facilities and services; protect public investment in transportation infrastructure; and enhance and expand mobility options.

CA4PRS con.

(Continued from page 1)

struction of roadway projects. Recent deployment of the CA4PRS on I-15 Devore project resulted in completion of construction 11 months ahead of schedule and a $6 million savings in total project costs. Another project in Southern California, the I-710 in Long Beach, was opened to traffic two weekends ahead of schedule with an estimated saving of $ 4 million in total project cost. The savings from these two projects alone has entirely covered the cost of development of the software and all the future enhancements and has demonstrated the potential of greater savings if CA4PRS is used on a broader base in California.

During the last year the Technology Implementation Group, an implementation arm of the American Association of State Highway and Transportation Officials (AASHTO), has awarded Caltrans with funding to market CA4PRS at the national level. DRI has been taking the lead role both in enhancing the software and its introduction to other state agencies across the nation.